

## CLAIMS

What is claimed is:

- 1 1. A method of establishing DC bias levels in an RF power amplifier having  
2 multiple power amplifier stages, comprising:  
3 generating a feedback signal using the input and output of a first power amplifier stage;  
4 and  
5 using the feedback signal to control the DC bias level of a second power amplifier stage.
- 1 2. The method of claim 1, wherein the DC bias level is generated to cause the DC  
2 levels at the input and output of the first power amplifier stage to have a predetermined  
3 relationship.
- 1 3. The method of claim 1, wherein the DC bias level is generated to cause the DC  
2 levels at the input and output of the first power amplifier stage to be approximately equal.
- 1 4. The method of claim 1, wherein the feedback signal is generated based on the DC  
2 level at the input and output of the first power amplifier stage.
- 1 5. The method of claim 3, wherein the feedback signal is generated by comparing  
2 the DC levels at the input and output of the first power amplifier stage.

1 6. The method of claim 3, wherein the feedback signal is used to set the DC levels at  
2 the input and output of the first power amplifier stage to approximately half of the supply  
3 voltage.

1 7. The method of claim 1, wherein the RF power amplifier comprises a non-linear  
2 power amplifier.

1 8. The method of claim 1, wherein the second power amplifier stage comprises a  
2 predriver circuit.

1 9. The method of claim 1, wherein the second power amplifier stage is adapted to  
2 receive an RF input signal.

1 10. A method of establishing DC bias levels in an RF power amplifier having  
2 multiple power amplifier stages, comprising:  
3 sensing the DC bias level at the input and at the output of a first power amplifier stage;  
4 generating a feedback signal using sensed DC bias levels; and  
5 coupling the feedback signal to a second power amplifier stage to control the DC bias  
6 level of the second power amplifier stage.

1 11. The method of claim 10, wherein the DC bias level is generated to cause the DC  
2 levels at the input and output of the first power amplifier stage to have a predetermined  
3 relationship.

1 12. The method of claim 10, wherein the DC bias level is generated to cause the DC  
2 levels at the input and output of the first power amplifier stage to be approximately equal.

1 13. The method of claim 10, wherein the feedback signal is generated by comparing  
2 the DC levels at the input and output of the first power amplifier stage.

1 14. The method of claim 10, wherein the feedback signal is used to set the DC levels  
2 at the input and output of the first power amplifier stage to approximately half of the  
3 supply voltage.

1 15. The method of claim 10, wherein the RF power amplifier comprises a non-linear  
2 power amplifier.

1 16. The method of claim 10, wherein the second power amplifier stage comprises a  
2 predriver circuit.

1 17. The method of claim 10, wherein the second power amplifier stage is adapted to  
2 receive an RF input signal.

1 19. An RF power amplifier comprising:  
2 a first power amplifier stage;  
3 a second power amplifier stage; and  
4 an amplifier having a first input coupled to the output of the first power amplifier stage, a  
5 second input coupled to the input of the first power amplifier stage for sensing the

6 DC bias levels at the input and output of the first power amplifier stage, and an  
7 output coupled to the second power amplifier stage to control the DC bias level of  
8 the second power amplifier stage.

1 20. The RF power amplifier of claim 19, wherein the DC bias level is generated so as  
2 to cause the DC levels at the input and output of the first power amplifier stage to have a  
3 predetermined relationship.

1 21. The RF power amplifier of claim 19, wherein the DC bias level is generated so as  
2 to cause the DC levels at the input and output of the first power amplifier stage to be  
3 approximately equal.

1 22. The RF power amplifier of claim 19, wherein the feedback signal is generated  
2 based on the DC level at the input and output of the first power amplifier stage.

1 23. The RF power amplifier of claim 22, wherein the feedback signal is generated by  
2 comparing the DC levels at the input and output of the first power amplifier stage.

1 24. The RF power amplifier of claim 19, wherein the feedback signal is used to set  
2 the DC levels at the input and output of the first power amplifier stage to approximately  
3 half of the supply voltage.

1 25. The RF power amplifier of claim 19, wherein the second power amplifier stage is  
2 adapted to receive an RF input signal.